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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/568,807

07/21/2006

Quentin David Cook

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EXAMINER

NWUGO, OJIAKO K

ART UNIT

PAPER NUMBER

2612

NOTIFICATION DATE

DELIVERY MODE

04/17/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com
pto@gbpatent.com

Office Action Summary	Application No. 10/568,807	Applicant(s) COOK ET AL.	
	Examiner OJIAKO NWUGO	Art Unit 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 10-12 is/are rejected.
- 7) ☒ Claim(s) 6-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/06, 7/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Claim Rejections - 35 USC § 112***

Claim1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant discloses in claim a 'sound inlet aperture' but did not elaborate as to the function of the sound inlet aperture.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim5 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over John W. Ober U.S. Patent 4438428. (Hereafter referred to as Ober)

Regarding **claim 5**, Ober discloses in fig.1 and col. 8 lines 23-27 Grills 108 and 109 juxtaposed with a sound hole 95, that lets in air to the smoke detector 16. This reads on "a smoke detection chamber defined by a body having a plurality of openings for allowing airflow there through, the body having a sound inlet aperture"

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Ober discloses in col. 6 lines 49-53 a photocell 73 and LED 72 located in the smoke chamber 74. This reads on “a photoelectric sensor mounted to the body for communication within the chamber; a light source mounted to the body for communication with the chamber”

In col. 6 lines 26-32 and col. 7 lines 26-32 Ober discloses a PC board 12 to which the audio alarm 19 with sound hole 95 and smoke chamber 74 are connected. This reads on “an electrical circuit operatively connected to the smoke detector, the circuit providing an electrical signal when the smoke detector detects smoke in the chamber; and a sound generating device mounted external to the chamber adjacent to the sound inlet aperture, the sound generating device operable in response to the electrical signal”

Ober discloses in fig. 2, 3, 11, col. 7 lines 26-30 and 55-60 a smoke detector with an audio alarm 19. The Audio alarm 19 has piezoelectric disc 90, resonance chamber 96 and sound hole 95. This reads on “smoke detection chamber is sized and shaped to cause resonance at the operating frequency of the sound generating device”. Since applicant discloses that the smoke chamber serves as resonant chamber for the audio device.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which

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said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prentice G. Moore et al. US Patent 4845474 in view of John W. Ober U.S. Patent 4438428. (Hereafter referred to as Moore and Ober)

Regarding **Claim 1**, Examiner will assume that the sound inlet aperture is part of sound generating device. Moore discloses in fig. 1 and col. 4 lines 58 – 70 a smoke chamber with cover 44 and a plurality of openings 46. This reads on "a smoke detection chamber defined by a body having a plurality of openings for allowing airflow there through the body".

In same section indicated above as well col. 4 lines 45-50, Moore discloses a radioactive source 42 that emits radiation into the smoke chamber, enclosure 30 to detect smoke particles. This reads on "a smoke detector mounted to the body for communication within the chamber".

In Fig. 1, col. 4 lines 12-17 and 40-45, Moore discloses a source plate 36 upon which the radioactive source 42 is mounted is electrically connected to the printed circuit board 26. By way of coil spring 25, circuit board 26 is in electrical contact transducer 12, the sound generating device. This reads on "a sound generating device mounted external to the chamber adjacent to the sound inlet aperture, the sound generating device operable in response to the electrical signal"

Moore dose not disclose a resonant chamber associated with sound generating device. Ober discloses in fig. 2, 3, 11, col. 7 lines 26-30 and 55-60 a

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smoke detector with an audio alarm 19. The Audio alarm 19 has piezoelectric disc 90, resonance chamber 96 and sound hole 95. This reads on "smoke detection chamber is sized and shaped to cause resonance at the operating frequency of the sound generating device". Since applicant discloses that the smoke chamber serves as resonant chamber for the audio device.

It would have been obvious for one of ordinary skill at the time of the invention incorporate the resonance chamber of Ober into Moore.

Regarding **Claim 2**, Moore discloses in col. 7 lines 30-33 a piezoelectric disc.

Regarding **Claim 3** Moore discloses in fig. 3, col. 7 lines 50-53 an annular flange 94 surrounding the sound hole 95.

Claim 4, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moore in view of Robert D Gourlay US Patent 3787741(Hereafter referred to as Gourlay) .

Regarding **claim 4**, Moore and Ober discloses all the limitation of **claim 1** as applied to claim 1 except the use of Helmholtz formula to specify the resonant chamber otherwise called a Helmholtz resonant chamber, for acoustic coupling. Gourlay discloses in fig 1 and col. 2 lines 22-25 the use of Helmholtz resonate cavity 18.

Regarding **Claim 11**, Examiner will assume that the sound inlet aperture is part of sound generating device. Moore discloses in fig. 1 and col. 4 lines 58 – 70 a smoke chamber with cover 44 and a plurality of openings 46. This reads on "a

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smoke detection chamber defined by a body having a plurality of openings for allowing airflow there through the body”.

In same section indicated above as well col. 4 lines 45-50, Moore discloses a radioactive source 42 that emits radiation into the smoke chamber, enclosure 30 to detect smoke particles. This reads on “a smoke detector mounted to the body for communication within the chamber”.

In Fig. 1, col. 4 lines 12-17 and 40-45, Moore discloses a source plate 36 upon which the radioactive source 42 is mounted is electrically connected to the printed circuit board 26. By way of coil spring 25, circuit board 26 is in electrical contact transducer 12, the sound generating device. This reads on "a sound generating device mounted external to the chamber adjacent to the sound inlet aperture, the sound generating device operable in response to the electrical signal”

Moore does not disclose a resonant chamber associated with sound generating device. Ober discloses in fig. 2, 3, 11, col. 7 lines 26-30 and 55-60 a smoke detector with an audio alarm 19. The Audio alarm 19 has piezoelectric disc 90, resonance chamber 96 and sound hole 95. This reads on “smoke detection chamber is sized and shaped to cause resonance at the operating frequency of the sound generating device”. Since applicant discloses that the smoke chamber serves as resonant chamber for the audio device.

It would have been obvious for one of ordinary skill at the time of the invention incorporate the resonance chamber of Ober into Moore.

Regarding claim 12, Ober discloses piezoelectric disc 90 in col. 7 line 30

Allowable Subject Matter

Claim 6-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OJIAKO NWUGO whose telephone number is (571)272-9755. The examiner can normally be reached on M - F 7.30am - 5.00pm EST, Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Hofsass can be reached on (571) 272 2981. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

OKN

/Davetta W. Goins/

Acting SPE of Art Unit 2612